

REMARKS

I. Status of the Application

Claims 1-15 are pending in the application. Claims 1-6 and 9-13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 7,029,784 to Carlstrom ("Carlstrom") in view of U.S. Pre-Grant Publication No. 2002/0022170 to Franklin et al. ("Franklin"), U.S. Patent No. 4,877,693 to Baker ("Baker"), and further in view of U.S. Patent No 2,143,171 to Anderson ("Anderson"). Claims 7, 8, 14 and 15 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Carlstrom, Franklin, Baker, Anderson, as applied to claims 1 and 9 and further in view of U.S. Patent No. 6,007,933 to Jones ("Jones").

Applicants respectfully request reconsideration of claims 1-15 in view of the following remarks. Each of the Examiner's rejections is addressed below

II. The Claims are Non-Obvious over Carlstrom in view of Franklin, Baker, and Anderson

Claims 1-6 and 9-13 stand rejected under 35 U.S.C. § 103(a) over Carlstrom in view of Franklin, Baker, and Anderson. This rejection is respectfully traversed.

Applicants respectfully submit that the proposed combination does not disclose or make obvious a fuel cell bipolar plate with anode flow channels on the first surface of a first plate, cathode flow channels on the second surface of a second plate, a plurality of center flow channels extending between the first and second plates; and a turnaround plenum in fluid communication with the center flow channels and the anode flow channels, as required by independent claims 1 and 9.

Carlstrom teaches a flow field plate with two interlocking layers having lands that form internal channels therebetween. The internal channels are used to circulate coolant, while the

channels on the exterior of the plate circulate fuel and oxidant. Baker is cited as disclosing the passage of fuel through fuel chambers that are coupled to entry ports of anode chambers. Franklin is cited as disclosing a single or multiple manifold(s) for the delivery and removal of reactants and reactant products to and from a separator plate. Anderson is cited as disclosing an assembly made of two plates with nesting configurations.

One skilled in the art would not only have no motivation to modify the plate of Carlstrom to provide a turnaround plenum in fluid communication with the center flow channels and the anode flow channels, they would be taught away from such a combination. As noted above, the internal channels of Carlstrom are used to circulate coolant. If a plenum were added to Carlstrom that was in fluid communication with the center flow channels and its anode flow channels, it would defeat the purpose of the center flow channels. Accordingly, one skilled in the art would be expressly taught away from the proposed combination.

Franklin and Anderson each fail to overcome the deficiencies of Carlstrom and Baker noted above. Neither Franklin nor Anderson disclose or make obvious a turnaround plenum in fluid communication with center flow channels and anode flow channels.

Since this required limitation of independent claims 1 and 9 is not found in any of Carlstrom, Franklin, Baker, or Anderson alone or in combination, the rejection is improper and should be withdrawn.

III. Claims 7, 8, 14 and 15 are Non-Obvious over Carlstrom, Franklin et al., Baker, and Anderson in view of Jones

Claims 7, 8, 14 and 15 have been rejected under 35 U.S.C. § 103(a) over Carlstrom, Franklin, Baker, Anderson, and Jones. Jones is cited as disclosing wires disposed between a bipolar plate and electrode to distribute reactants and products and to provide deformability and resiliency in the cell. This rejection is respectfully traversed.

For the reasons stated above, the Examiner's combination of Carlstrom, Franklin, Baker, and Anderson fails to teach or suggest the subject matter of claims 1 and 9, and Jones fails to cure the deficiencies of these references. Jones simply does not disclose a turnaround plenum in fluid communication with center flow channels and anode flow channels. Consequently, the rejection is improper and should be withdrawn.

IV. Conclusion

Reconsideration and allowance of all the pending claims is respectfully requested. If a telephone conversation with Applicants' attorney would expedite prosecution of the above-identified application, the Examiner is urged to call the undersigned at (617) 720-9600.

Respectfully submitted,

Date: July 31, 2007

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